

WP 3: Methodology 6: Authentic Questions on digital games

# Definition and structure of games

## Definition

* What is a digital game?

## Features of games that support learning

* Concentration, focus and the effective learning.
* Are the good old drillquestionnaires in the form of games too old fashioned, or can something be learned through them?
* I think it would be interesting to get a better understanding on what kind of role commercial games can have (or will have) in education.
* I have explored interesting commercial games. Are these games suited for children at all?
* Which methods do educational digital games support?
* What kind of / Which games are educational?
* What makes a game educationally valuable?
* How long should an educational game be?
* What is a good learning game like? Is there such a game?
* What kinds of games are made to support the learning process of a child?
* What educational games are more interesting according to educational researchers: role play? Logics? Simulation? What competences can be addressed by each game according to student age groups?
* There is a lot of challenge in games, but is there an equal challenge in teaching situations? Are there differences between the challenges in games? Are games too easy? Does it support learning?
* Is it better to use games that are played alone, or games that are played together with the pupils?
* What are the things that are important about a game?
* Is it possible to customize the game paths according to the level of the students (in a same class) or are there different games according to the level of the students (in a same class)?
* What types of games improve learning outcomes?
* Are there any specific types of digital games that give effectively and better learning results? (If so, which ones?)
* What criteria are fundamental to make the digital games function in school and in relation to satisfy all at the user side?
  + School: Do not put pressure on the limited resources and provide transferable learning to the curriculum knowledge goals.
  + The teacher: Allows the use in class, without taking too much time from other subjects or themes in the same subjects, while providing as good or better learning outcomes than other forms of instruction
  + Student: is motivating to play, and at the same time providing new knowledge relevant to students' daily life and school situation.

## Designing games

* Describe an idea you would like to accomplish as a game. Which game is an absolute must ... you don’t have to keep in mind only the existing games. The goal is to gather ideas and at the same time evaluate the awareness of educational games.
* Should the finish know-how in the game industry be harnessed to make learning games, or should we only use preexisting games?
* How are the digital games, namely the ones used in educational activities, created?
* Who should create digital games?
* Is it possible to simply develop games that satisfy all, without that it at the same time be interesting for nobody?

## Other

* Why is the use of games often limited to computers based games, when there is hundreds of analogue play titles that can have the same benefit or better benefit on many potential direct an indirect learning goals, as the digital version.
* How is feedback given?
* How does the feedback influence a learning result?
* Which levels does the game have? How big is the game?
* Is the game anonymous or with logging in?
* Games are produced with large sums of money and teams of psychologists take part in development researching the reactions of gamers meticulously. Can this research information be used for advantage in teaching?
* Are there reviews of the educational digital games’ researches? What kind of researches does exist, what are they examining?

# Learning aspects

## Pedagogical aspects

* What games played by the children and teens, can be used pedagogically, and how?
* How to start to use digital games in the Secondary school?
* How to teach students (especially youngest) to learn (not only to play) through games?
* Do you know any digital games that can be integrated into a learning process?
* Does special education have special needs when it comes to the nature of games played?
* Is the learned material reinforced and stored in the brain better while playing games?
* How do players learn during the game?
* How does the learning process take place?
* Do the digital games play a part in the learning process? If so, are these a means for relaxing only or working tools?
* Does the use of digital games influence positively the quality of a learning process?
* Do the games motivate to learn?
* Are there any games for school, that make the learning experience more interesting?
* What is the balance between the effectiveness (quality) of learning process and student motivation to use digital games in learning?
* Is the high interest of using digital games always advantage? What are the possibilities, strengthens and weaknesses of Digital Games use in Education?
* Is there any evidence that Games improves learning outcomes?  In Primary Schools? In secondary Schools? In other environments?
* Does gaming affect concentration? In which direction? Is there a difference in the type of a game?
* Is the use of digital games clearly linked to better performance/learning by children/students?
* Research on the learning outcome when using games in teaching.
  + Added value
* Give an integrative comparison of time consumption and students’ interest in learning a topic by means of a digital game or by applying the so-called regular learning. (Does the supposedly stronger interest in the game and longer time on learning the subject weigh up against the so-called regular learning that involves less interest, but is faster).
* Define areas (subjects, student groups) that can benefit the most from using games in teaching.
  + Motivation
  + Variety
  + Theory and Practice
* For what competences/knowledge are there evidence that digital games are better that textbooks?
* What are the advantages of the use of games in the classroom?

### Administrative issues

* Which technical facilities does it require?
* What kind of technology do digital games need?
* How to improve from central hold, so that schools can use games in education (Examples of games, access to games)

## Relationship to curriculum

* In which subjects the teaching could include such games?
* Are there subjects to which the games are especially well suited, or subjects to which they aren't suited at all?
* Which educational games, for which subjects are used in practice?
* How to assess the skills students acquire in the game?
* In which subjects can digital games be used?
* Are there games suited for schools.

## What skills can be learned through gaming

* Games with a story are strong in the market at the moment. The game can be a story in itself, or the students can develop their own story. What kind of skills do these models assist?
* What skills in particular does digital games develop or strengthen in the child’s education? Is there solid evidence?
* Do you agree with the statement that digital games contribute to the development of proficiencies in the following:
  + leadership,
  + collaboration,
  + judgement,
  + independent work,
  + working with computer,
  + knowledge building?
* Do you agree with the statement that digital games contribute to the development of proficiencies in the following:
  + spatial imagination,
  + logic,
  + reaction,
  + concentration of attention,
  + fine motorics?
* Which digital competences do digital games support?
* Which skills can students acquire by playing educational digital games?
* How can one distinguish and assess between the direct and indirect learning of the use of computer games. For example, World of World Craft can teach you about teamwork, planning and organization etc, but its not easily to adapt this to the curriculum.
* Is there a natural link between playing computer games and digital literacy, or does playing games give you only the exact knowledge of the game, and little that is transferable to other situations?
* Are the digital games an aim in its own right or a means for studying other subjects?
* Can the games develop computer and information technology related competences?
* What are the skills that can be developed through digital games?
* Which life skills can be learned by means of digital games?
* Do the communication games develop the students’ communications kills for real life?
* Is it possible to produce games that would support empathetic thinking? Or are such games already been produced?
* Is it possible to produce games, that would support solving and understanding of complex problems? Or are such games already been produced?
* Is it possible to produce games that would support understanding of hard to comprehend concepts and phenomena? Or are such games already been produced?
* Certain types of games develop coordination (for example Tetris), I believe, but has this been studied? What happens in the brain if such games are played a lot?
* The features of social development in net-based games? Are cooperative skills or selfishness developed, when the game is meant to be won? Has the development of cooperative skills been measured?
* Can games develop creativity, or are they always mechanical repetition?
* What skills does gaming especially develop?
* Can mathematical thinking be learned through games, or is it all about doing tricks?
* How does playing games develop the child?
* Which fields of knowledge are trained by playing different games? Which games are good?
* What kind of digital skills do games develop?
* Has the playing of war and battle games any real impact on the problem solving or behavior of the child or teen who plays them?
* Which competences and abilities can be learned trough games?
* What skills and competencies do students with much experience of games hold, versus students who do not have much experience?
  + Do these skills give the students an advantage in the learning context?

## Other

* What kind of teaching methods are supported by digital games?
* Is it possible to build the whole learning process up on computer games? Would it change the learning results?
* Which preliminary knowledge does the game require from the player?
* Digital games can also be played outdoors, when the sporting side of the games is stressed (SmartUs, Deejo). Has this synergy positive impact on learning or does it have an impact at all?

# Examples and conventions

## Extent of use

* How much/often should digital games be used?
* What is the time period to play without pausing?
* What is a suitable amount of time to be used in gaming in a day, when playing at home is also taken into account?
* When is it convenient to administer digital games? At the beginning of a learning unit? Or instead of a learning unit?

## Practical arrangements

### Age

* What is the most practical age digital games should be used for?
* What age groups are games suitable for?
* What is the best age for the children to start playing digital games?
* Which age group is the game addressed to?
* Is there an age limit, under which games should not be used in teaching, or is there a limit over which they should not be used?

### Group size

* Is the use of computer games (or any other simulation games) intended for all students or for smaller groups with their own needs and challenges?
* What is a good size for a group of students when playing learning games?
* Is the use of computer games (or any other simulation games) intended for all students or for smaller groups with their own needs and challenges?

### Other

* There seems to be more boys interested in digital games, why? Is it because of gender differences or cultural/upbringing differences?

## Other

* How to facilitate the way of using games in education (organization, methods, assessment, learning outcomes). Examples of good practices. Especially from primary school.
* Which games have been most successful in education all over the world? In which subjects, with students belonging to which age groups?
* We (those who received the letter) could be provided with the list /overview of the main / most widely used existing educational digital games, if there is one.
* Which electronic games do you use?
* Where can one get the games?
* What happens when these games are not played?
* Are there any games you have played longer than a year?
* Do your friends play the same games?
* Does the layout of computers play a role in the socializing effect of the games, when single player games are played?
* Have you used games in educational activities? I mean a computer or a web based game of course, but why not other types of games. I think games are not used very often.
* What do you suggest be done to use more games (that you would use some games). There are quite many games already ...
* Is it necessary to play any games?
* If you play, then why?
* Should the tools like word processors and spreadsheets be valued at a Primary level, or should there be a focus on games and the exploitation of playful software?

# Teacher’s skill and role

* Which competences are essential for a teacher who uses digital games in his/her job?
* Are the teachers ready/prepared to use digital games in educational activities?
* Do the teachers themselves play digital games?
* Are the teachers interested in using digital games in educational activities?
* What role for the teacher? What the training for the teachers in case of massive use of ICT and digital games?
* What is teacher´s attitude and so- far experience with games ´usage?   (Pros and cons)
* Do teachers have enough information about the possibility of game-teaching?
* Do teachers know how to involve games into an every-day teaching?
* Are the teachers interested in using digital games in educational activities?

# Problems

## Addiction

* What to do with students who are addicted to digital games?
* Are you an addict?
* What makes games addictive? Can the addictiveness be used for advantage in teaching?
* How important is the feeling of control in games and what is the signifigance of success? Is that addictive?

## Ethical questions

* Do you read the text at the beginning of a game saying ”forbidden for those under 18” and in that case refrain from playing.
* Does the killing in computer games arouse appetite for killing in real life?
* Games have often great graphics and leave a natural impression. Is there a danger that the border between games and reality fades in the head of the pupil? (compare to the research information about violence in TV)
* How does the world view of games affect the development of a child?
* How can the child regulate the impact that games have on his/her development? Or do the fore mentioned things matter at all?

## Other

* Can the games inhibit development?
* Does the use of games at home have a detrimental effect on learning outcomes at school?
* Do digital games cause any subject related misunderstandings; if so, which? (In case of games these probably include the simplification of some processes and phenomena).
* Which is better for the development of a child, playing games, or not playing games at all? Why?
* Should digital games substitute the ones that are played outside?